a remarkable resemblance to that of the floral peduncle of *Cabomba aquatica*.

Again, in the rhizome itself the arrangement is not altogether astelic, for by the aggregation of the separated bundles of the stem a number of steles are formed, one in the region below the point of insertion of each leaf. These groups of bundles appear to be set apart for the especial purpose of bearing the adventitious roots, and they are to be found in varying degrees of perfection throughout the order. I found *Victoria regia* and certain species of *Nymphaea* to possess the most perfect root-bearing steles; they are composed of ten to twenty bundles arranged in a ring, and are perfectly distinct and well defined. On the other hand, in other species of *Nymphaea* and in *Nuphar*, the bundles set apart for bearing the adventitious roots are not arranged in a sufficiently regular manner to be considered as a stele, or are only laterally fused together to form an arc of greater or less extent.

D. T. GWYNNE-VAUGHAN.

CHANGES IN THE TENTACLE OF DROSERA ROTUNDIFOLIA, PRODUCED BY FEEDING WITH EGG-ALBUMEN¹.

—In unfed leaves fixed in watery picro-corrosive (sp. gr. 1.020) and stained with eosin-toluidin blue, the apical and lateral glands of the first or outer layer and also all the cells of the second or middle layer show a deep-blue cytoplasm, with nuclei possessing little chromatin proper, but large nucleoli and a granular nucleoplasm. Within one minute after feeding the blue cytoplasm becomes purple; after one hour it is greatly vacuolated and reddish purple; after twenty-four hours the blue material has disappeared, and only a few strands of a pink cytoplasm are to be seen. The nucleus after feeding loses the granular cytoplasm, the nuclear chromatin segments enlarge enormously, reminding one of the early stages of mitosis. The nucleolus has lost its red chromatin, and is not easy to see.

Recuperation of the cytoplasm is the result of nuclear activity, for the chromosomes enlarge during the period preceding the appearance of the granular nucleoplasm, which latter in every respect resembles the granular deposit of cytoplasm in immediate contact with the outer surface of the nuclear membrane. The cytoplasm is at first

¹ Abstract of a paper read before Section K at the Liverpool meeting of the British Association, 1896. For full account see Quarterly Journal of Microscopical Science, October, 1896.

purple in colour, but becomes blue after 6–7 days. After the ‘secretion’ of the cytoplasm the nuclear chromatin segments diminish in size, while the nucleoli become more and more evident, and the nucleoplasm has the same appearance as in a leaf which has never been fed. The third layer of gland-cells, perhaps concerned in the secretion of mucus, also shows marked changes; for the long spindle-shaped nuclei of the resting condition shorten within one minute, after ten minutes they are more or less globular, then pass through changes similar to those described above, and after some days resume their spindle shape—an indication of rest.

LILY H. HUIE.

A NEW CYCAD FROM THE ISLE OF PORTLAND¹.—

Dr. Woodward lately obtained an exceedingly fine specimen of a cycadean stem from the Purbeck beds of Portland, which is now in the fossil-plant gallery of the British Museum. The stem, which is probably the largest known, has a height of 1 m. 18.5 cm., and measures 1 m. 7 cm. in girth at the broadest part. A striking feature of the specimen is the conical apical bud enclosed by tapered bud-scales, bearing numerous ramental outgrowths on the exposed surface. The surface of the stem presents the appearance of a prominent reticulum of projecting ridges, of which the meshes were originally occupied by the persistent petiole-bases. The substance of the leaf-stalks has for the most part disappeared, while the interpetiolar ramental tissue has been mineralized and so preserved as a projecting framework. In structure the ramenta are practically identical with those of *Bennettites*, as described by Carruthers and other writers. The petiole-bases also agree very closely with those of *Bennettites*, consisting of a mass of parenchymatous tissue traversed by numerous vascular bundles and secretory canals, with a distinct band of cork at the periphery. No trace of any inflorescence has been found. It is proposed to name the plant *Cycadeoidea gigantea*.

A. C. SEWARD.

OBSERVATIONS ON THE LORANTHACEAE OF CEYLON². II. ANATOMICAL.—I. Emergences on the Embryo of *Loranthus neelgherensis*.—The hypocotyl of the fully-developed embryo

¹ Abstract of a paper read before Section K at the Liverpool Meeting of the British Association, 1896.

² Ibid.

Huie, Lily H. 1896. "Changes in the tentacle of *Drosera rotundifolia*, produced by feeding with egg-albumen." *Annals of botany* 10, 625–626.

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